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Fauna plioceńska płazów i gadów z Rębielic Królewskich (Polska)

Фауна земноводных и пресмыкающихся Рембелиц Крулевских (Польша)

Pliocene Amphibians and Reptiles from Rębielice Królewskie (Poland)

[Pl. XVII—XVIII]

Abstract — Fossil remains of Amphibians and Reptiles, recoverd from Rębielice Królewskie, a Pliocene fossil locality in Poland, are here described. The described fossils specimens are referable to at least three separate forms of Amphibians and five representatives of Reptiles. An interesting feature here is the presence of the toad *Pliobatrachus langhae* Fejérváry, for the first time reported in Poland. The character of the fauna occurring in the fossil site under consideration, as well as its affinities with other Tertiary finds of Amphibians and Reptiles in Polish territory, are also discussed.

INTRODUCTION

In 1958 Mr. Z. Mossoczy of the Geological Survey of Poland discovered at Rębielice Królewskie, NE of Częstochowa, a karst doline filled in by terra rosa and containing fairly abundant Pliocene Vertebrate remains. This doline has been washed out

in Klippen rocks of the Kraków—Wieluń Jurassic Uplands by the action of water. The collected fossils were by Mr. Mossoczy placed at the disposition of the Cracow Branch of the Zoological Institute of the Polish Academy of Sciences. The writer's description (M. Młynarski 1959) of a new Polish site of the turtle *Geoemyda eureia* (Wegner) has been based on the above material. The present note ends up the description of other reptilian and amphibian remains as well as of the relatively numerous Amphibians *(Salientia)* present in the locality. The abundante remains of small Mammals have at the same been worked out by K. Kowalski (1960), while the numerous bone remains of Leporids are being investigated by Mr. L. Sych. The results thus obtained will be published in a separate paper.

The writer here cordially thanks Mr. Z. Mossoczy for the material kindly supplied by him, and Mr. Lucjan Sych for the photographs of the here described bone fragments.

Class: AMPHIBIA

Order: Salientia

Amphibian remains contained in our material belong to representatives of two families, the frogs *Ranidae* and the toads *Bufonidae*. They are fairly abundant in Rębielice Królewskie but fragments of such characteristic bones as e. g. the urostyl (coccyx), the ilium, the parasphenoid etc. providing sound diagnostic evidence for closer identification are lacking. The considered specimens apparently belong to individuals of varous size and possibly various age too. The largest of them, however, do not in size exceed the living Polish frogs.

Family: *Ranidae*

Genus: *Rana* Linnaeus 1758

Material: 1. Vomerian bone of a small individual, 2. fragments of maxillare bones, 3. Ilium, 4. the 2nd and 7th (or 6th) vertebrae of a little individual undamaged.

Os vomeris

Vomerian bone well preserved and not damaged. It belonged to a rather small individual, and measures 5 mm in length. Minute teeth indentations are distinctly seen on the bone surface, displayining structure and proportions typical for the genus.

Os maxillare

All the collected maxillary bone fragments likewise belong to small individuals. One of the specimens is a characteristic process: processus frontalis ossis maxillaris. It is robust and in appearance differs somewhat from the analogous process of the living Water and Grass Frog (*Rana esculenta* L. and *Rana temporaria* L.) with whose skulls the here considered bone fragments have been compared. In shape and structure the dentition of these fragments is typically that of frogs.

Os ilium

The only thus for known fragment of the left hip bone has been preserved with the complet limbus acetabuli portion of that bone. Margo dorsalis is distinctly broad. Unfortunatly, however, owing to the lack of a large fragment of cranidial part of this bone, it is not possible to reconstruct the whole shape. Processus superior is rather small but conspicuous. The length of the preserved specimen is 9 mm. These remains are undoubtedly referable to a young individual of the genus *Rana*. Out of the living species they come closest, in what shape is concerned, to analogous bone fragments of the species *Rana arvalis* NILSON (H. SCHAEFFER 1932, p. 777, fig. 21).

Vertebrae

The two vertebrae are procoel. Similary as in the living frogs of Poland the lateral hypapophyses are moderately long. The zygapophyses are rather small and flat. The neural (spinal) processes are low and elongated. The postzygophysal process, usually flat and roundish in the living frogs, are here strikingly sharp-pointed. The vertebral width measured between the transverse processes is 5 mm in the 2nd vertebra and 7 mm

in the 6th (or 7th) vertebra. The length of these vertebrae is 3 and 4 mm respectively.

On the whole the structure of these vertebrae has been ascertained to differ from that of our living species (see Pl. XVII, fig. 1). Unfortunately, owing to the inadequacy of the material available, we cannot postulate any definite suggestions with regard to their systematic position.

Family: *Bufonidae*

Genus: *Piliobatrachus* FEJÉRVÁRY 1917

Pliobatrachus langhae FEJÉRVÁRY

Material: Os sacrum

Our only one satisfactorily preserved back bone has the morphological features of the species *Pliobatrachus langhae* FEJÉRVÁRY. It is, namely, with similary broad and caudally bent winged processes of the lateral apophyses. The structure of the bone surface is here analogous to that of FEJÉRVÁRY's (1917) holotype (see: O. KUHN 1941, Pl. 8, fig. 5).

The vertebral junction displaying the characteristic double indentation suggests the assignment of the here considered remains to the „Procoel-group" *(Bufonidae, Leptodactylidae, Hylidae)* (NOBLE 1922, PIVÉTEAU 1955 and others).

Out of the living species the here studied bone comes closest, in what morphology is concerned, to sacral bone of the species *Bufo calamita* LAURENTUS. It differs from it, however, in ornamentation of the dorsal surface and in the posteriorly directed winged processes. Upon reconstruction of the missing part the width of the studied fragment is 5 mm.

Genus *Pliobatrachus* and species *Pliobatrachus langhae* FEJÉRÉARY have been described on an analogous back bone of a rather small toad recovered from the Pliocene Episcopia beds of Rumania, in 1917, reported upon by G. J. FEJÉRVÁRY. Thus far it has not been recorded from other Tertiary sites.

P. langhae FEJÉRVÁRY is quoted in several papers of Tertiary Amphibians among others in that by O. KUHN (1941) containing a brief report concerning the Tertiary Salientia of Europe.

Genus: *Bufo* LAURENTUS 1768

Material: 1. minute fragments of ossa frontoparietalia and nasalia of small individuals, 2. the urostyl (coccyx).

Fragments of frontoparietal and nasal bones

Several of the collected minute skull bone fragments were doubtlessly those of toads. This is indicated by the characteristic outer surface ornamentation (see Pl. XVII, fig. 4). A similar bone structure is encountered in all living European species of the genus *Bufo* on the surface of frontoparietal and nasal bones. Such fragmentary specimens, belonging to individuals of various size, do not, unfortunatly, permit the reconstruction of the contour of these bones. The structure of the outer surface in one of the fragments somewhat resembles that of os frontoparietale in the genus *Pelobates* WAGLER *(Pelobatidae)*, the small dimensions of that fragment together with the lack of any other bone fragments characteristic of the family and genus do not permit the assignment of the Pelobatides to the Rębielice Królewskie fossil fauna.

Urostyl (os coccygis)

The only urostyl among our material undoubtedly belongs to a representative of the family *Bufonidae*. Similarly as in living toads the spina ossis coccygis does not reach to the end of the bone. The lateral spines are not indicated at all. In general shape and appearance the considered bone somewhat resembles the urostyle of the recent species *Bufo viridis* LAURENTUS (see H. SCHAEFFER 1932, p. 777, fig. 8).

The identification of the above bone is rather doubtful since it was not found together with the sacral bone and since it is difficult to note any morphological features suggesting its assignment to some definite form (genus). Certain differences of morphology, compared with those displayed by urostyles of recent species, may perhaps indicate that this urostyle is referable to the already mentioned *Pliobatrachus langhae* FEJÉRVÁRY. In view, however, of the sacral bone of that species having been discovered quite separately, this is only a very tentative loose sugestion. The length ot the considered bone is 18 mm.

Salientia remains of indeterminate systematic position

Our material comprises quite a number of frog and toad bone remains which, owing either to their fragmentary condition or the lack of typical features, cannot for the time being be refered to a more closely defined systematic group. They are probably the remains of the above named frogs and toads.

Material: 1. a score of fragments of os cruris (tibiofibula), 2. a score of fragments of os antibrachi (radioulna) 3. several well preserved specimens of os humeri, 4. the scapula of a small individual, 5. numerous tibiale and fibulare, 6. an excellently preserved os sphenethmoideum.

Cruris and antibrachi bones

The most numerous bone fragments in our material are those of cruris and antibrachi bones. In all these fragments we may readily observe the characteristic frog structure of the bone surface and the longitudinal furrow at the junction of the radius with the ulna or of the tibia with fibula. The articular surfaces of the heads of these bones are not preserved. Though poor ossification, or more strictly speaking, the lack of it in the heads of bones of mature individuals is very typical for *Pelobatidae* and *Discoglossidae*, yet it dose not constitute sufficiently sound evidence for the assignment of the considered fossils to these systematic groups. Similar absence of poorly ossified bone heads is encountred in sub-fossil and recent frogs *(Ranidae)*.

Humerus

Only three humeral bones of our material are complete. These clearly show the characteristic curvature of the bones and crista ventralis (deltoidea). The articular surface of the bone heads is likewise missing here. All the humeral bones belonged to rather small individuals of approximately the same size.

Scapula

The only scapula in our material is slightly more slender than those in recent frogs. The acromial and glenoidal processes are readily discernible and of approximately the some size. The length of scapula is 9 mm.

Tibiale and fibulare

The fairly numerous specimens of the tibiale and fibulare in structure resemble those of the recent frogs.

Sphenethmoideum

Our only os sphenethmoideum in shape differs fundamentally from the analogous bones of recent frogs. Special attention ought to be paid to the distinctly elongated processes. The size and thickness of the bone probably indicate a mature individual. It may possibly be the bone of the genus *Pliobatrachus* or some other, thus far unknown, form. Its length is 9 mm.

General remarks on the Salientia from Rębielice Królewskie

The above considered material is too meagre to be comparable with other European fossil findes containing tailless Amphibians *(Salientia)*. The presence in our material of the remains of the toad *Pliobatrachus langhae* FEJÉRVÁRY indicates some association with the Pliocene of Rumania. The occurrence of this toad likewise suggests and confirms the preglacial orgin of the Rębielice Królewskie fauna. The morphological differences of some of the here above described bone fragments as compared against analogous bones of recent species, confirm earlier suppositions. On the other hand, our material is not very ample, hence the risk of misinterpreting individual variations as specific or generic features of other forms.

All the amphibians whose bones have been recovered from the considered site were rather small animals. Their average size coincides fairly well with the mean dimensions of our recent frogs and toads.

Class: REPTILIA

Order: Testudines

Material: numerous fragments of tortoise shells of various size and age.

Fragmentary tortoise shells constitute the major part of the vertebrate bone remains from Rębielice Królewskie. The long bones of these reptiles are very few and in a fragmentary condition. No cranial bone fragments have thus far been found.

The morphology of shell plates suggests that all the turtles occuring in the studied material are freshwater species of the family *Emydidae (Cryptodira)*. Plastral and carapacial fragments of the species *Geoemyda eureia* (WEGNER) are here the most numerous. These characteristic fossil remains have already been described in an earliery note (M. MŁYNARSKI 1959).

The epiplastral plates of the plastron is an interesting specimen among the here studied material. On the extent of ossification it is supposed to have belonged to a rather small but mature individual. The morphology of the so called epiplastral lips makes it reasonably referable to the above mentioned species. Namely, the epiplastral lips are broadly flat and with the ridgelike outer surface thickening so characteristic of *Geoemyda eureia* (WEGNER). In the cranial part this plate is massive and thick (10 mm).

In turtles belonging to the genus *Emys* DUMÉRIL and some representatives of the genus *Clemmys* RIDGEN the shape of the anterior border of the plastron is similar. The last named genus has by many students of fossil turtles been regarded as an amalgamation of all such forms which, for various reasons, mostly on account of their fragmentary condition, it has not been possible to assign to any one of the determined Emydid species. Doubtlessly, many remains in paleontological bibliography referred to as "*Clemmys* sp." or "cf. *Clemmys*" actually belonged to various genera. It will not be out of place once again to emphasize here the exceedingly strong morphological variability so common among turtles as well as the frequent structural deviations of the shell bone plates. In certain cases this variability brings the plates of one species the semblage of other, not even congeneric, species. In this connection the

writer does not believe it necessary or correct more accurately to determine the generic position of such fossils, even with an interrogation mark or a „cf.".

Our specimens are most likely referable to representatives of the family *Emydidae*. This is suggested by the thickness of the bone plates, their ornamentation, the morphology of the entoplastrons and the neural plates etc. On the thickness of the particular plates and the probably strong doming of the carapace it is supposed that our turtles were rather loosely connected with an aquatic environment. These suppositions have already been stated in the writer's note on *Geoemyda eureia* (WEGNER), mentioned here above.

Order: Squamata

Sub-order: *Sauria*

Lizards are represented in our material by the families of *Lacertidae* and *Anguidae*. These reptile remains are, unfortunally, exceedingly minute, fragmentary and scarce. Osteoderms of the genus *Ophisaurus* DAUDIN are relatively the most numerous. Other remains for the most part represent fragmentary jaws of various individuals.

Family: *Lacertidae*

Genus: *Lacerta* LINNAEUS 1758

Lacerta sp.

Material: 1. Fragment of maxillare of a large individual, 2. fragments of dental bones of a rather small specimen, 3. fragments of the dentale and maxillare of slightly larger individuals.

Os maxillare of a larger individual

This fragment (Pl. XVIII, fig. 1.) belonged to a large individual, in size coinciding with that of the Green Lizard *Lacerta viridis* LAURENTUS. The length of the collected fragment is 10 mm. Dorsally the outer bone surface is coarsely ornamented. The horny plates (osteoderms) on the lizard's head are distinctly delimited showing the scutum frenale and frenooculare. The margin of this part of the bone is damaged. The dental portion of the bone is separated from the cranial part by a distinct

wide furrow. Within this groove equally sized foramina mentalia are poorly discernible. The dentation is of the pleurodont type. Four completely preserved teeth are in shape typical for the genus *Lacerta*. The assignment of these specimens to that genus is moreover suggested by their tight arrangement. Similar osteoderm impressions on the surface of maxillar bone are encountered in large recent European lizards. E. g. a male specimen of *Lacerta muralis nigriventris* (BONAPARTE) from the collection of the Senckenberg Museum at Frankfort on the Mein (see K. KLEMMER 1957, Pl. 3, fig. 7 d) has a nearly identical structure of the bone surface with scute impressions. On this evidence the writer supposes that the above described remains belonged to a species (form) somewhat different than those now living in Poland but approaching *Lacerta viridis* LAURENTUS or larger stocks of *L. muralis* LAURENTUS. The minute fragments of dentery (Pl. XVIII, fig. 2) likewise belong to the *Lacerta*.

Fragments of dental bone of small individuals

The other jaw fragments contained in our material belonged to considerabely smaller individuals. Their shape and the arrangement of the small-sized teeth on the dentary bone refers them to genus *Lacerta*. An assignement to this genus is likewise suggested by the broad Meckelian furrow so characteristic of the considered genus, well visible in some of the specimens. The foramina mentalia are clearly distinct on the surface of the mentioned bone fragments. The size of the lizards to which these fragments are referable agrees with that of our recent lizards *Lacerta agilis* L. and *Lacerta vivipara* JAQUIN.

Family: *Anguidae*

Subfamily: *Anguinae*

Genus: *Ophisaurus* DAUDIN 1803

Ophisaurus pannonicus KORMOS

Maxillare

The maxillar bone in our material belonged to a large Glass Lizard, larger than recent representatives of the genus *Ophisaurus* DAUDIN. It is massive and nearly complete, with the

exception of the marginal fragment adjacent to the intermaxillare. The upper bone border is likewise slightly damaged. The structure of the outer surface is readily discernible. In the anterior part of the bone a fragment of the osteoderm (fronto-oculare) is quite distincte. The various sized foramina mentalia are likewise easily visible. All the teeth, the two first ones excepted, are satisfactorily preserved. They are variously sized, the largest ones occuring in the central part of the maxilla. Their shape is that of massive rodes with convex crowns so characteristic of the majority of representatives of this genus. The arrangement of teeth on the inner part of the maxillar margin is typically pleurodont.

The length of the considered fragment is 20 mm

A vertebra from the dorso-lumbar part

The only, thus far, in our material discovered vertebra of the here considered footless lizard is excellently preserved. It is a large and very robust specimen. The vertebra is 11 mm long. Noteworthy here is the hypapophisis and the flat smooth ventral surface of the vertebra. The prae-zygophyses are broadly flat, directed upwards. The post-zygophyses are somewhat smaller but equally broad. The neural (spinal) process is rather small but robust. It occurs in the cranial (anterior) part of the vertebra only. In the posterior portion it is observable as a moderately high pointed crest only. The transversal processes (diapophyses) are very massive too. The articular facetes of the diaphysal area, uniting the vertebra with the ribs, are very distinct too. A characteristic feature, typical for the *Ophisaurus* DAUDIN, is the shape of the vertebral condyles and the glanoidal cavity. The condyle here is dorso-ventraly compressed, broad and massive, decidedly broader than high.

The considered vertebra is analogous with those of *Ophisaurus pannonicus* KORMOS from the bone breccia of Węże (M. MŁYNARSKI 1956). It is silghtly larger than the Węże specimens.

Osteoderms

All the osteoderms, thus far discovered, display analogous surface ornamentation, so typical for all the European repre-

sentatives of the genus *Ophisaurus* DAUDIN. They consist of ossified parts of scales from diverse parts of the skin of variously sized individuals (Pl. XVIII, fig. 5).

All the above mentioned fossiles have been compared with those of *Ophisaurus pannonicus* KORMOS, described from Węże (M. MŁYNARSKI op. cit.). They show analogies of structure type and belong to individuals of nearly the same size, considerably longer than the living representatives of *Ophisaurus apodus* (PALLAS). In this connection they have been referred to the species *Ophisaurus pannonicus* KORMOS, common in the Upper Tertiary of Central Europe. The characteristic impressions of this lizard are particulary abundant in various Tertiary sites. The morphology of osteoderms has been discussed somewhat more at large by E. THENIUS (1952) in a discussion on the finds from Austrian Lowlands.

General remarks on the lizards from Rębielice Królewskie

The lizard fauna from Rębielice Królewskie comes closer to the fossil reptile fauna recovered from Węże. It comprises at least two forms belonging to the genus *Lacerta* L.

A most characteristic occurence is that of *Ophisaurus pannonicus* KORMOS. This is the second unquestionable fossil site of this species in the Pliocene of Poland. It may possibly also have occurred during the early Pleistocene since similar osteoderms have been described by K. KOWALSKI (1958) from the Kadzielnia Hill of Kielce.

Suborder: *Serpentes*

Family: *Colubridae*

Sub-family: *Colubrinae**

Material: Extremely numerous vertebrae of snakes, of various size.

All the extremely numerous snake vertebrae contained in our meterial are referable to the above named systematic group on the characteristic absence of distinctly protruding hypa-

* This systematic position of the fossil snakes is assigned by the writer after R. HOFFSTETTER (1955).

pophyses. They are certainly the dorso-lumbar vertebrae. The hypapophyse is indicated on the ventral side only as a long medial margin. The neuıapophyse (neural process) is high and it has a straight free margin, parallel to the vertebral symmetry axis. The zygosphene has an approximately rectangular outiline and the edges somewhat protruding outwards in the dorsal portion. The zygantrum in shape resembles a triangle with concave sides. The praezygophyse wide, with flat processes, readily discernible. The postzygapophyses forming wings so characteristic of snakes are wide too. The transversal processes are rather small and short. The articulate facets of the vertebro-costal junctures are nearly always well visible on the diapophyse. The average length of a vertebra is 7 mm. The largest of the thus far recovered vertebres is 10 mm in length. All the vertebrae have the condyls fairly massive with roundish section and deep glanoidal cavity.

The vertebrae of our snakes have been referred to the subfamily *Colubrinae* on the absence of hypapophyses in the dorso-lumbar area (O. KUHN 1939 „hintere Thoracalwirbel"), and on a general resemblance to vertebrae of the above named systematic group. Within this family differences of vertebral morphology are unfortunately very insignificant. They never provide sound evidence for the specific or even generic identification of any one snake. For example, snake vertebrae from Rębielice Królewskie conspicuosly resemble the vertebrae of *Palaeoelaphe kansasensis* GILMORE (GILMORE 1938), a typical representative of this group from Pliocene of North America. The here considered vertebrae conspicuously resemble those of representatives of genus *Elaphe* FITZINGER described from Pleistocene beds of Japan by T. SHIKAMA (1955), also other similar vertebres of numerous Tertiary and Quarternary European snakes (WETTSTEIN-WESTERHEIMB 1955 et alli).

Among recent Polish snakes a similar vertebral type is encountered in Esculap Snake, *Elaphe longissima* (LAURENTUS). Notably smaller vertebrae of this type, likewise lacking hypapophyses in the dorso-lumbar part of vertebral column, are also observed in our *Coronella austriaca* (LAURENTUS).

In genus *Elaphe* FITZINGER, the hypapophysal processes in the anterior port of the dorso-lumbar area are notably massive

and robust (well developed). Suitably adapted they may, as has lately been demonstrated by J. A. Chernov (1957), even serve to crush up shells of brid's eggs, as in species belonging to distinctly other groups. Unfortunately these vertebres have not as yet been discovered among the one hundred vertebres so far collected.

As has already been here mentioned, a closer determination of the systematic position of snakes on the basis of vertebrae, attempted by many students, presents great difficulties and is not reliable.

When inspecting osteological material at the Laboratory of Ophiology in the Instituto Butantan in São Paulo the writer arrived at the conclusion that snakes with structure of vertebres fundamentally differing not only from those of other specimens but from all other related forms too, are extremely rare (extinction of hypapophyse, reduction of processes and their partial reduction, shorting and thicking etc.) Moreover, the vertebres of such unquestionably patological individuals bear all the features of symmetry and regularity. Such similar occurences have already been described by Brasilian and Soviet ophiologist far no such vertebres have been reported in fossil forms where they could most likely be regarded as a taxonomic feature leading to the establishment of a new systematic unit.

General remarks on the Reptile and Amphibian fauna from Rębielice Królewskie

The fossil reptiles from Rębielice Królewskie fundamentally resemble those from Węże, since nearly all the identified species and genera are common to both localities.

A striking feature is the absence of the truly Land Turtle from the genus *Testudo* Linnaeus at Rębielice Królewskie, whose fossil remains are extremely abundant in Węże. This genus belongs to representatives of xerothermic forms. The remains of the footless lizard *Ophisaurus pannonicus* Kormos are here obviously less frequent than at Węże.

All the turtles whose shells have been recovered at Rębielice Królewskie are representatives of freshwater forms from the family *Emydidae*. They are all more or less connected with aquatic environment.

Numerous snake vertebrae yielded by the described material are larger than those of our recent snakes, *Elaphe longissima* (LAURENTUS) excepted. Similar, thus far undescribed vertebraes, are encountered among the Węże material; they are, however, much fewer.

The fossil Salientia are particulary characteristic of the Rębielice Królewskie fauna. Frog and toad remains are relatively abundant. Many belong to forms whose equivalents do not certainly occur among living forms. A noteworthy fact is the presence of the toad *Pliobatrachus langhae* FEJÉRVÁRY, a species thus far raported from the Pliocene of Rumania but new to Poland. Thus, together with Węże, Rębielice Królewskie bear many similarities with the Pliocene localites from Rumania and Hungary. It should be stressed that at Węże fossil amphibians are very scanty and that the ample material collected there has yielded but few vertebres and the bone fragments of frogs.

The presence in the studied fauna of toads also of snakes resembling the living Esculap-Snake *Elaphe longissima* (LAURENTUS), suggests a sylvan character for these fossils while the occurence of frogs and freshwater turtles indicates the proximity of some water reservoires. The supposition as to the sylvan character of the studied fauna is not quite confirmed by the presence of small mammals described by Dr. K. KOWALSKI, who has ascertained there only rather rare sylvan forms.

The occurence at Rębielice Królewskie of the species *Geoemyda eureia* (WEGNER) and *Pliobatrachus langhae* FEJÉRVÁRY suggests a Tertiary orgin for this locality. This supposition is moreover confirmed by the study of small mammals also undertaken by the above mentioned author.

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STRESZCZENIE

Praca niniejsza poświęcona jest faunie płazów i gadów plioceńskich z miejscowości Rębielice Królewskie koło Częstochowy. W miejscowości tej znaleziono również liczne szczątki

drobnych ssaków, które zostały równocześnie opracowane przez K. KOWALSKIEGO (1960). Fauna zającowatych *(Lagomorpha)* znajduje się obecnie w opracowaniu. Bliższe dane dotyczące znaleziska szczątków kopalnych kręgowców w Rębielicach Królewskich opublikował jego odkrywca Z. MOSSOCZY (1959).

Fragmenty kostne płazów *(Amphibia)* należały do przynajmniej trzech form płazów bezogonowych *(Salientia)*. Na szczególną uwagę zasługuje obecność w omawianym materiale ropuchy *Pliobatrachus langhae* FEJÉRVÁRY znalezionej po raz pierwszy w Polsce. Jest to drugie poza Rumunią poznane dotychczas stanowisko tego kopalnego gatunku. Poza tym występują w Rębielicach przedstawiciele rodzajów *Rana* LINNAEUS i *Bufo* LAURENTUS, których dokładniejsze określenie nie jest na razie możliwe.

Fauna gadów *(Reptilia)* reprezentowana jest w naszym materiale przede wszystkim przez żółwie. Fragmenty ich pancerzy są bardzo liczne. Wszystkie żółwie należały do słodkowodnej rodziny *Emydidae (Cryptodira)*. Na uwagę zasługuje w omawianym materiale obecność gatunku *Geoemyda eureia* (WEGNER), który był tematem osobnej notatki (M. MŁYNARSKI 1959). Jaszczurki *(Sauria)* reprezentowane są przez rodzaj *Lacerta* LINNAEUS *(Lacertidae)* oraz gatunek *Ophisaurus pannonicus* KORMOS *(Anguidae)*. Ten ostatni gatunek jest pospolity w polskim pliocenie. Charakterystyczna jest dla herpetofauny z Rębielic Królewskich obecność licznych kręgów węży z podrodziny *Colubrinae*. Są to szczątki okazów podobnej wielkości do współczesnych przedstawicieli rodzaju *Elaphe* FITZINGER.

Występowanie ropuch *(Bufonidae)* oraz węży podobnych do węża Eskulapa *(Elaphe longissima* (LAURENTUS)) przemawia za leśnym charakterem omawianej fauny. Częściowo potwierdzają to badania nad fauną drobnych ssaków K. KOWALSKIEGO (1960). Obecność żab i słodkowodnych żółwi wskazuje, że musiały w pobliżu znajdować się jakieś zbiorniki wodne.

Występowanie gatunków *Pliobatrachus langhae* FEJÉRVÁRY i *Geoemyda eureia* (WEGNER) przemawia niewątpliwie za trzeciorzędowym wiekiem omawianej fauny.

РЕЗЮМЕ

Настоящая заметка посвящена фауне пресмыкающихся и земноводных плиоцена местности Рембелице Крулевские вблизи Ченстохова. В этой местности сверх того найдены были многочисленные остатки мелких млекопитающих. которые были обработаны К. Ковальским. Описание фауны *Lagomorpha* находится в настоящее время в обработке. Более подробные данные осноcительно найденных остатков позвоночных в Рембелицах Крулевских опубликовал нашедший их З. Моссочи (1959).

Фрагменты костей принадлежали по крайней мере трем особым формам безхвостых земноводных (*Salientia*). Особенное внимание следует обратить на присутствие в описываемом материале жабы *Pliobatrachus langhae* FEJÉRVÁRY впервые найденной в Польше. Это второе после Румынии местонахождение этого ископаемого вида. Сверх того в Рембелицах встречаются представители родов *Rana* и *Bufo,* более точное определение которых пока невозможно. Фауна пресмыкаюшихся (*Reptilia*) представлена в нашем материале прежде всего черепахами; части их панцырей очень многочисленны. Все они принадлежат пресноводному семейству *Emydidae* (*Cryptodira*), достойно примечания присутствие в описываемом материале вида *Geemyda eureia* (WEGNER), который был оговорен в особой заметке (Млынарский, 1959). Ящерицы (*Sauria*) представлены родом *Lacerta* (*Lacertidae*) и видом *Ophisaurus pannonicus* KORMOS (*Anguidae*), Этот последний обычен в польском плиоцене. Присутствие в герпетофауне Рембелиц многочисленных позвонков ужей из подсемейства *Colubridae* особенно характерн. Это остатки особей, соответствующих по величине современным представителям рода *Elaphe* FITZINGER.

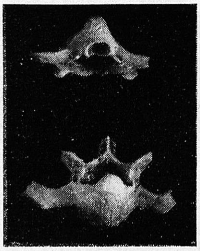
Присутствие жаб (*Bufonidae*) и ужа-эскулапа *Elaphe longissima* (LAURENTUS) говорит в пользу предположения, что характер местности был лесистый; по части это подтверждается результатами исследований фауны мелких млекопитающих К. Ковальским (1960). Присутствие жаб и пресноводных черепах указывает на то, что вблизи вышеупомянутых местонахождений должны были находиться какие-то водоемы.

Находка в материале видов *Pliobatrachus langhae* FEJÉRVÁRY и *Geoemyda eureia* (WEGNER), говорит п пользу третичного происхождения описываемой фауны.

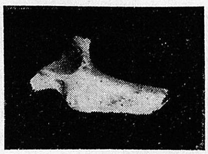
PLATES

Plate XVII

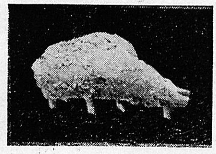
Fig. 1. Vertebrae of the genus *Rana* L
Fig. 2. Os ilium of the genus *Rana* L
Fig. 3. Fragment of maxillare of the genus *Rana* L
Fig. 4. Fragment of frontoparietal bone of the genus *Bufo* LAURENTUS
Fig. 5. *Pliobatrachus langhae* FEJÉRVARY — os sacrum. a — ventral surface, b — dorsal surface
Fig. 6. Urostyl of the genus *Bufo* LAURENTUS
Fig. 7. Cruris and antibrachi bones of indeterminate Salientia.
Fig. 8. Humeral bones of indeterminate Salientia
Fig. 9. Scapula of indeterminate frog.
Fig. 10. Tibiale of indeterminate frog.
(Exact dimensions were given in the text)



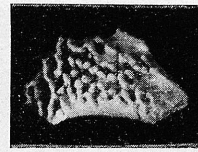
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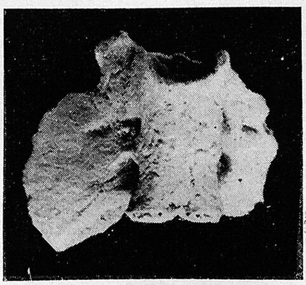
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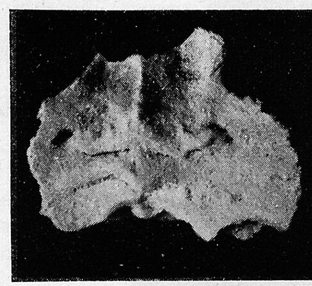
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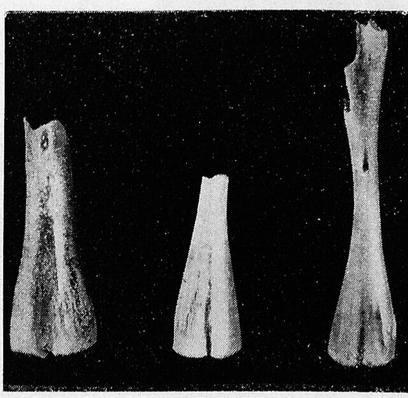
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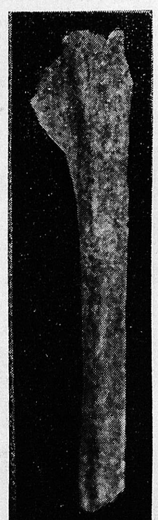
5a



5b



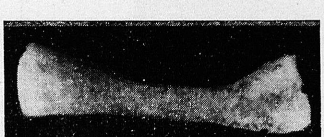
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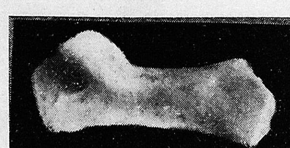
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8



10



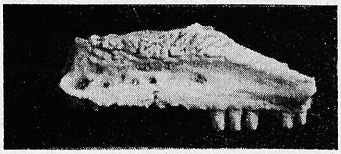
9

L. Sych phot.

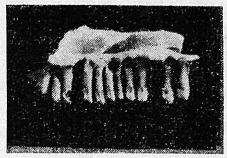
M. Młynarski

Plate XVIII

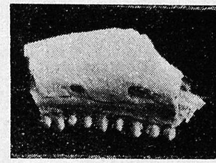
Fig. 1. Maxillare of a larger individual of *Lacerta sp.*
Fig. 2. a and b. Maxillar and dental fragments of *Lacerta sp.*
Fig. 3. Maxillare of *Ophisaurus pannonicus* Kormos
Fig. 4. Vertebra of the dorso-lumbar part of *Ophisaurus pannonicus* Kormos
Fig. 5. Osteoderms of *Ophisaurus pannonicus* Kormos
Fig. 6. a, b, c, d. Vertebrae of indeterminate snakes of the subfamily *Colubrinae*
(Exact dimensions were given in the text)



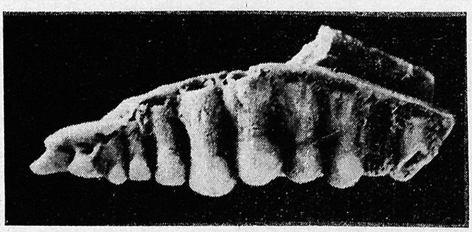
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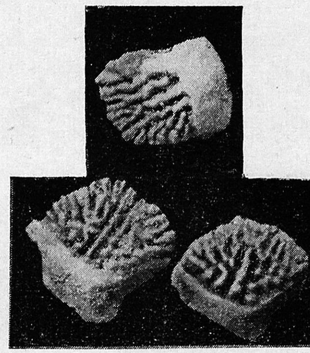
2a



2b



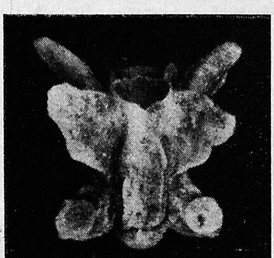
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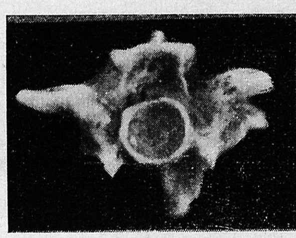
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4



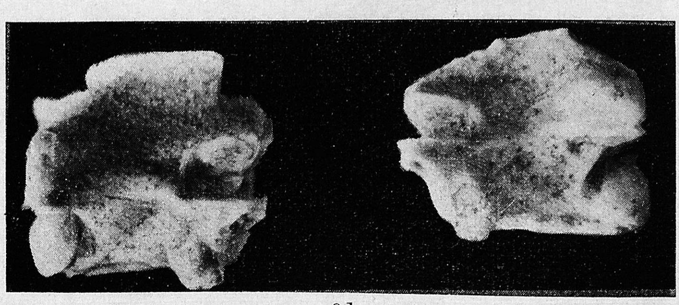
6a



6b



6c



6d

L. Sych phot.
M. Młynarski

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